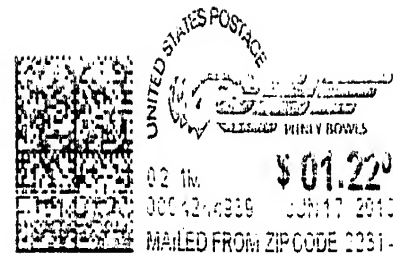


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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,913	11/13/2006	Wendelin Jan Stark	0796-76794/DSD	5717

EXAMINER	
AHVAZI, BIJAN	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
06/17/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Notice of Allowability**

Application No.

10/592,913

Applicant(s)

STARK ET AL.

Examiner

Art Unit

BIJAN AHVAZI

1796

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/19/2010.
2. ☒ The allowed claim(s) is/are 1-3 and 5-24.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received:

The drawings filed on 09/15/2006 are accepted by the Examiner.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>12/10/2009</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                     | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

/BA/  
Bijan Ahvazi  
Examiner Art Unit 1796

/Harold Y Pyon/  
Supervisory Patent Examiner, Art Unit 1796



Art Unit: 1796

**SUPPLEMENTAL ACTION**

1. Please address all communication, and direct all telephone calls, regarding this application to

Cooper & Dunham LLP  
30 Rockefeller Plaza, 20th Floor  
New York, NY 10112

2. Please see the attached supplemental PTO-37 form with corrected allowed claims and checkmark in box 2 that inadvertently was omitted in the previous communication dated 05/20/2010.

***Examiner Information***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bijan Ahvazi, Ph.D. whose telephone number is (571)270-3449. The examiner can normally be reached on M-F 8:0-5:0. (Off every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from

Application/Control Number: 10/592,913

Page 3

Art Unit: 1796

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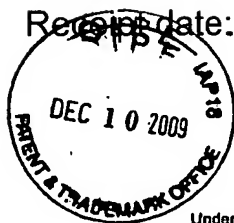
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Bijan Ahvazi  
Examiner  
Art Unit 1796

/Harold Y Pyon/  
Supervisory Patent Examiner, Art Unit 1796

06/11/2010

Received date: 12/10/2009

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PTO/SB/08a (01-08)

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 6

### Complete if Known

Application Number	10/592,913
Filing Date	November 13, 2006
First Named Inventor	Jan Wendelin Stark
Art Unit	1796
Examiner Name	Bijan Ahvazi
Attorney Docket Number	796/76794

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 2005-02227864	10-13-2005	Sutorik et al.	
	2	US- 2004-0050207	03-18-2004	Wooldridge et al.	
	3	US- 7,211,236	05-01-2007	Stark et al.	
	4	US- 4,659,617	04-21-1987	Fujii et al.	
	5	US- 2004-0126298	07-01-2004	Stark et al.	
	6	US- 2006-0229197	10-12-2006	Stark et al.	
	7	US- 5,395,606	03-07-1995	Xiao et al.	
	8	US- 6,013,318	01-11-2000	Hunt et al.	
	9	US- 4,772,736	09-20-1988	Edwards et al.	
	10	US- 5,514,822	05-07-1996	Scott et al.	
	11	US- 5,989,514	11-23-1999	Bi et al.	
	12	US- 6,030,914	02-29-2000	Matsui	
	13	US- 4,501,823	02-26-1985	Masuda	
	14	US- 6,887,566	05-03-2005	Hung et al.	
	15	US- 7,220,398	05-22-2007	Sutorik et al.	
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### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
	16	EP 1142830 A1	10-10-2001	Hennig et al.		
	17	EP 0803471 A2	10-29-1997	Mangold et al.		
	18	WO 2001-036332	05-25-2001	Hung et al.		
	19	WO 2000-027754	05-18-2000	Kumar et al.		
	20	EP 0841304 A1	05-13-1998	Matsui et al.		
	21	WO 2003-070640	08-28-2008	Sutorik et al.		

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Signature

/Bijan Ahvazi/

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Considered

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		Application Number	10/592,913
		Filing Date	November 13, 2006
		First Named Inventor	Jan Wendelin Stark
		Art Unit	1796
		Examiner Name	Bijan Ahvazi
Sheet 2	of 6	Attorney Docket Number	796/76794

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	22	L. Madler et al. (2002) "Flame-made ceria nanoparticles", J. Mater. Res., Vol. 17, No. 6, pgs. 1356-1362	
	23	A.R. DiGiampaolo et al. (1998) "ZrO <sub>2</sub> coatings on stainless steel by aerosol thermal spraying", Advances in Tech. Materials & Mat. Processing Journal, 1(1), 90-100 (abstract)	
	24	L. Madler et al. (2002) "Bismuth Oxide Nanoparticles by Flame Spray Pyrolysis", J. Am. Ceram. Soc., Vol. 85, No. 7, pgs. 1713-1718	
	25	S.T. Aruna et al. (1998) "Combustion Synthesis and Properties of Nanostructured Ceria-Zirconia Solid Solutions", Nanostructured Materials, Vol. 10, No. 6, pgs. 995-964	
	26	U.S. Patent Appln. Serial No. 10/592,913 filed November 13, 2006 and presently being examined in GAU 1796	
	27	Madler et al. (Feb. 2002) "Controlled synthesis of nanostructured particles by flame spray pyrolysis" Journal of Aerosol Science, Vol. 33, pgs. 369-389	
	28	Pratsinis, Sotiris E. (1998) "Flame Aerosol Synthesis of Ceramic Powders," Prog. Energy Combust. Sci. Vol. 24, pp. 197-219	
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	30	W. J. Stark et al., (2003) Chem. Comm. "Flame synthesis of nanocrystalline ceria-zirconia: effect of carrier liquid", No. 5, 2/20/03, pgs. 588-589, XP002264387	
	31	Jarcho, M. (1981) "Calcium-Phosphate Ceramics as Hard Tissue Prosthetics." Clin. Orthopaedics and Related Research, 259-278	

Examiner Signature	/Bijan Ahvazi/	Date Considered	06/15/2010
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Application Number	10/592,913
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First Named Inventor	Jan Wendelin Stark
Art Unit	1796
Examiner Name	Bijan Ahvazi
Attorney Docket Number	796/76794

Sheet 3 of 6

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	32	de Groot, K. (1983) "Bioceramics of Calcium Phosphate" (ed. de Groot, K.) (CRC Press, Boca Raton)	
	33	LeGeros, R. Z. (1991) "Calcium Phosphates in Oral Biology and Medicine" (ed. LeGeros, R.Z.) (S. Karger, Basel)	
	34	Metsger, D.S. et al. (1982) "Tricalcium Phosphate Ceramic - a Resorbable Bone Implant - Review and Current Status", Journal of the Am. Dental Assoc. 105, 1035-1038	
	35	LeGeros, R. Z. et al. (1995) "Encyclopedic Handbook of Biomaterials and Bioengineering" eds. Wise, D.L., J., T.D., & E., A.D., (Marcel Dekker, New York)	
	36	Dong, Z. L. et al. (2003) "TEM and STEM analysis on heat-treated and in vitro plasma-sprayed hydroxyapatite/Ti-6Al-4V composite coatings" Biomaterials 24, 97-105	
	37	Cleries, L. et al. (1998) "Dissolution behaviour of calcium phosphate coatings obtained by laser ablation" Biomaterials 19, 1483-1487	
	38	Arias, J. L. et al. (2003) "Micro- and nano-testing of calcium phosphate coatings produced by pulsed laser deposition." Biomaterials 24, 3403-3408	
	39	Tadic, D. et al. (2002) "Continuous synthesis of amorphous carbonated apatites" Biomaterials 23, 2553-2559	
	40	Sarkar, M. R. et al. (2001) "First histological observations...a novel calcium phosphate bone substitute material in human cancellous bone" Jour. of Bio. Mat. Res. 58, 329-334	
	41	Overgaard, S. et al. (1999) "The influence of crystallinity of the hydroxyapatite coating on the fixation of implants..." Jour. of Bone & Joint Surg.-Brit. Vol. 81B, 725-731	

Examiner Signature	/Bijan Ahvazi/	Date Considered	06/15/2010
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	42	Knaack, D. et al. (1998) "Resorbable calcium phosphate bone substitute" Journal of Biomedical Materials Research, 43, 399-409	
	43	Stark, W. J. et al. (2002) "Flame-made titania/silica epoxidation catalysts: Toward large-scale production" Indus. & Engin. Chem. Res. 41, 4921-4927	
	44	Ravaglioli, A. & Krajewski, A. (1992) "Bioceramics: Materials, Properties, Applications" p. 432, Chapman & Hall, London	
	45	Gauthier, O. et al. (1998) "Macroporous biphasic calcium phosphate ceramics: influence of macropore diameter & macroporosity percentage on bone ingrowth" Biomat. 19, 133-139	
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	47	Yuan, H. P. et al. (1998) "Osteoinduction by calcium phosphate biomaterials" Journal of Materials Science-Materials in Medicine 9, 723-726	
	48	Bignon, A. et al. (2003) "Effect of micro & macroporosity of bone substitutes on their mechanical properties & cellular response" Jou. of Mat. Sci-Mat. in Med. 14, 1089-1097	
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	51	Yuan, H. P. et al. (2000) "Tissue responses of calcium phosphate cement: a study in dogs" Biomaterials 21, 1283-1290	

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	52	Yuan, H. P. et al. (1999) "A preliminary study on osteoinduction of two kinds of calcium phosphate ceramics" Biomaterials 20, 1799-1806	
	53	Somrani, S. et al. (2003) "Thermal evolution of amorphous tricalcium phosphate" Journal of Materials Chemistry 13, 888-892	
	54	Peters, F. et al (2000) "The structure of bone studied with synchrotron X-ray diffraction, X-ray absorption spectroscopy and thermal analysis" Thermochimica Acta 361, 131-138	
	55	Suchanek, W. et al (2002) "Mechanochemical-hydrothermal synthesis of carbonated apatite powders at room temperature" Biomaterials 23, 699-710	
	56	Baxter, J. D. et al. (1966) "Physical State of Bone Carbonate - a Comparative Infra-Red Study in Several Mineralized Tissues" Yale Journal of Biology & Medicine 38, 456	
	57	Emerson, W. H. et al. (1962) "The Infra-Red Absorption Spectra of Carbonate in Calcified Tissues" Archives of Oral Biology 7, 671-683	
	58	Fowler, B. O. "Infrared Studies of Apatites .1. Vibrational Assignment for Calcium, Strontium & Barium Hydroxyapatites Utilizing Isotopic Substitution" Inorg.Chem. 13, 194-207	
	59	Jillavenkatesa, A. et al. (1998) "The infrared & Raman spectra of beta and alpha-tricalcium phosphate (Ca-3(PO4)(2))" Spectroscopy Letters 31, 1619-1634	
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	61	Daculsi, G. et al (1997) "International Review of Cytology- a Survey of Cell Biology" Vol 172, 129-191, ACADEMIC PRESS INC, San Diego	

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Substitute for form 1449/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		Application Number	10/592,913
		Filing Date	November 13, 2006
		First Named Inventor	Jan Wendelin Stark
		Art Unit	1796
		Examiner Name	Bijan Ahvazi
Sheet 6	of 6	Attorney Docket Number	796/76794

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	62	Fulmer, M. T. et al. (2002) "Measurements of solubilities and dissolution rates of several hydroxyapatites" Biomaterials 23, 751-755	
	63	Nelson, D. G. A. (1981) "The Influence of Carbonate on the Atomic-Structure and Reactivity of Hydroxyapatite" Journal of Dental Research 60, 1621-1629	
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	65	Dewaal, D. et al. (1994) "Vibrational-Spectra of a Solid-Solution of Cadmium and Calcium Pyrophosphate" Materials Research Bulletin 29, 1129-1135	
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	67	Pena, J. et al. (2003) "Hydroxyapatite, tricalcium phosphate and biphasic materials prepared by a liquid mix technique" Journal of the European Ceramic Society 23, 1687-1696	
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